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EXAMINER
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ART UNIT	PAPER NUMBER
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11

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 November 1999_.

2a)☐ This action is FINAL.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-28_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-28_ is/are rejected.

7)☒ Claim(s) _11 and 13-15_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _8 November 1999_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☒ Some *   c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 11 and 13 - 15 are objected to because of the following informalities:

2.   Regarding Claim 11, on page 43, the first line should apparently read

"...computer is a WAVE file..."

3.   Regarding claim 13, on page 44, the second line should apparently read

"...external solid state..."

4.   Regarding claim 14, on page 44, the sixth line should apparently read "...external

solid state..."

5.   Regarding claim 15, on page 45 the first line should apparently read "...a single

digital audio..." and the second line should apparently read "...audio data files..." and

the fifth line should apparently read "...audio data files...".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7.   Claim 12 rejected under 35 U.S.C. 102(e) as being anticipated by Terui (U.S.

Patent 5,903,871).

8.   Regarding Claim 12, Terui discloses a microphone that produces an analog

signal that is converted to a digital signal by an analog-to-digital converter (col. 3 lines 7

– 11) (i.e. an A/D converter for converting an analog audio signal collected by a

microphone into digital audio data), a flash memory that may be adopted as the

incorporated memory (col. 14 lines 11 - 13) (i.e. an internal solid state memory for

storing said compressed digital audio data), the digital signal from the A/D converter is

compressively transformed (coded) to data in a predetermined format (col. 3 lines 27 –

29) (i.e. a digital compression circuit for compressing said digital audio data), a DSP to

decompressively transform (decode) the data from the main control circuit (col. 3 lines

32 – 34) (i.e. a digital decompression circuit for decompressing said compressed digital

audio data read out of said internal solid state memory to generate decompressed

digital audio data), a D/A converter that converts the digital signal to an analog signal

(col. 3 lines 37 and 38) (i.e. a D/A converter for converting said decompressed digital

audio data into an analog audio signal), the analog signal is inputted to a power

amplifier for amplifying the analog signal and driving speaker (col. 3 lines 38 – 40) (i.e. a

reproducing means for reproducing said analog audio signal supplied from said D/A

converter) ,a recording medium comprising and IC memory detachably coupled to the

voice recording and reproducing apparatus (col. 3 lines 61 – 63) (i.e. a connecting

terminal for connecting detachably an external solid state memory), that voice files are

recorded to the detachable flash memory card (col. 15 lines 31 and 32) and files are

recorded in the memory incorporated in the voice reproducing apparatus (col. 15 lines

48 and 49) (i.e. a solid state memory for storing said compressed digital audio data

instead of or together with said internal solid state memory) and that if the flash memory

card has not been installed, the process goes back to step S32 and if the flash memory

card has been installed the process goes to step S34 (figure 12 reference S32 – S34

and col. 10 lines 8 and 9) (i.e. wherein when it is detected that the external solid state

memory is removed from said external memory connecting terminal during a recording

operation using the external solid state memory, the recording operation is temporally

interrupted, and after detecting that the relevant external solid state memory is

connected to said external memory connecting terminal, the interrupted recording

operation is restarted).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Terui (U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243).

11.   Regarding Claim 1, Terui discloses a microphone that produces an analog signal

that is converted to a digital signal by an analog-to-digital converter (col. 3 lines 7 – 11)

(i.e. an A/D converter for converting an analog audio signal collected by a microphone

into digital audio data), a flash memory that may be adopted as the incorporated

memory (col. 14 lines 11 - 13) (i.e. an internal solid state memory for storing said

compressed digital audio data), the digital signal from the A/D converter is

compressively transformed (coded) to data in a predetermined format (col. 3 lines 27 –

29) (i.e. a digital compression circuit for compressing said digital audio data), a DSP to

decompressively transform (decode) the data from the main control circuit (col. 3 lines

32 – 34) (i.e. a digital decompression circuit for decompressing said compressed digital

audio data read out of said internal solid state memory to generate decompressed

digital audio data), a D/A converter that converts the digital signal to an analog signal

(col. 3 lines 37 and 38) (i.e. a D/A converter for converting said decompressed digital

audio data into an analog audio signal), the analog signal is inputted to a power

amplifier for amplifying the analog signal and driving speaker (col. 3 lines 38 – 40) (i.e. a

reproducing means for reproducing said analog audio signal supplied from said D/A

converter) and transferring the recorded dictation data to a personal computer and the

data can be managed only by the information in the file (col. 7 line 67 and col. 8 lines 1

and 2) (i.e. an output means for outputting said compressed digital audio data to an

external computer such that the compressed digital audio data has a file format which

can be directly treated by the external computer). Terui does not disclose that the

analog audio signal of sixty seconds is converted into compressed digital audio data of

not larger than 100Kbytes. Omura discloses a new technique for low cost robust voice

compression at a rate of 9.6 Kbps or less (page 1). Since there are 8 bits in a byte, this

compression technique allows for 1.2 Kilobytes per second (9.6 kilobits per second / 8

bits per byte = 1.2 kilobytes per second). At a rate of 1.2 kilobytes per second, 60

seconds of audio data would fit within a file of 72 KB, (1.2 kilobytes per second X 60

seconds) less than 100 KB (i.e. that the analog audio signal of sixty seconds is

converted into compressed digital audio data of not larger than 100K bytes). One of

ordinary skill in the art at the time of the invention would have been motivated to use

Omura's compression scheme in Terui's voice recording apparatus in order to reduce

the amount of memory necessary for recording or, extend the amount of voice that can

be recorded in a given memory space.

12.   Regarding Claim 2, in addition to the elements stated above regarding claim 1,

Terui further discloses a recording medium comprising and IC memory detachably

coupled to the voice recording and reproducing apparatus (col. 3 lines 61 – 63) (i.e. a

connecting terminal for connecting detachably an external solid state memory).

13.   Regarding Claim 3, in addition to the elements stated above regarding claim 2,

Terui further discloses that voice files are recorded to the detachable flash memory card

(col. 15 lines 31 and 32) and files are recorded in the memory incorporated in the voice

reproducing apparatus (col. 15 lines 48 and 49) (i.e. wherein said external solid state

memory is used to store the compressed digital audio data like as said internal solid

state memory).

14.   Regarding Claim 4, in addition to the elements stated above regarding claim 2,

Terui further discloses that the incorporated memory in the voice reproducing apparatus

functions as a storage medium for storing a voice file transmitted from the flash memory

card (col. 13 lines 27 – 30) (i.e. wherein a digital data transmission is effected between

said internal solid state memory and said external solid state memory).

15.   Regarding Claim 5, in addition to the elements stated above regarding claim 2,

Terui further discloses that the flash memory card reads out the recorded data and

supplies it to the DSP (col. 9 lines 17 – 23) (i.e. wherein a digital audio signal stored in said external solid state memory is read out and is supplied to said decompression circuit).

16.   Regarding Claim 9, in addition to the elements stated above regarding claim 1, Terui further a flash memory card that is detachably coupled to the voice reproducing apparatus (col. 13 lines 23 and 24) and that a flash memory card may be adopted as the incorporated memory (col. 14 lines 11 – 13) (i.e. wherein said internal solid state memory and external solid state memory are formed by a non-volatile semiconductor memory without a backup battery).

17.   Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terui (U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) and in further view of Flanagin (U.S. Patent 6,128,661).

18.   Regarding Claim 6, in addition to the elements stated above regarding claim 1, Flanagin further discloses a mobile device that can communicate with a desktop computer via a serial connection (col. 8 lines 19 and 20) (i.e. a cable connecting terminal to which one end of a connection cable is detachably connected, the other end of said connection cable being connected to external computer). One of ordinary skill in the art at the time of the invention would have been motivated to use Flanagin's connection in conjunction with Terui's voice recording apparatus confidently and quickly transfer data from the recording apparatus to a home personal computer. One would want to do this in order to archive important sound clips such as personal reminders or interview notes.

19.   Regarding Claim 7, in addition to the elements stated above regarding claim 1,
Flanagin further discloses a mobile device that can communicate with a desktop
computer via an infrared link (col. 8 lines 19 – 21) (i.e. said output means for outputting
the compressed digital audio data to the external computer comprises a transmitter
which transmits the compressed digital audio data by means of a radio wave signal or
an optical signal to a receiver provided in the external computer).

20.   Regarding Claim 8, in addition to the elements stated above regarding claim 1,
Flanagin further discloses a mobile device that can communicate with the desktop
computer through a modem (col. 8 lines 28 – 30) (i.e. a modem and a communication
line connecting terminal connected to said modem).

21.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui
(U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) and in further view of
Schuster (U.S. Patent 6,125,343).

22.   Regarding Claim 10, in addition to the elements stated above regarding claim 1,
Schuster discloses that the (ITU-T) G.723.1 vocoder is used to encode voice signals
(col. 4 lines 58 and 59) (i.e. wherein said digital compression circuit is constructed such
that the digital audio data is compressed in accordance with an audio coding system
based on the ITU-T recommendation G723.1). One of ordinary skill in the art would
have been motivated to use Schuster's G.723.1 compression scheme on Terui's voice
recording apparatus in order to efficiently transfer the compressed sound files.
Schuster discloses using G.723.1 one can reliably and efficiently send the encoded
audio over a LAN or a plain old telephone service (col. 2 lines 16 –28).

23.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui

(U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) and in further view of

Baugher (U.S. Patent 5,581,703) and in further view of Jones (U.S. Patent 6,009,519).

24.   Regarding Claim 11, in addition to the elements stated above regarding claim 1,

Baugher discloses a file transferred to the host computer for storage over a

communications adapter (col. 7 lines 55 – 59) and wherein that file may be a .WAV file

(col. 8 line 8) (i.e. wherein said file format of the compressed digital audio data

outputted to the external computer is a WAVE file). One of ordinary skill in the art at the

time of the invention would have been motivated to use the Baugher's transferring

method to transfer common sound files such as WAVE files from Terui's voice recorder

to various computers. It would be desirable to have the sound files in WAVE format

because many personal computers are typically adapted to handle files such as WAVE

files and therefore processing is widely available. Baugher does not disclose a

computer that works on windows. Jones discloses a windows computer system (col. 1

lines 56 and 57) (i.e. while the computer works on windows). One of ordinary skill in the

art at the time of the invention would have been motivated to use Jones' Windows

based computer system to process Baugher's wave files in order to conveniently

playback the sound files. It is desirable to be able to control the playback of the sound

files in a simple manner (Jones' col. 1 lines 54 – 56).

25.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui

(U.S. Patent 5,903,871) in view of Takahashi (U.S. Patent 5,196,947).

26.   Regarding Claim 13, in addition to the elements stated above regarding claim 12,

Takahashi discloses that if a storage medium is detached during transmission of image

data a warning is generated (col. 4 lines 63 – 66) (i.e. wherein when the external solid

state memory is detected to be removed from the external memory connecting terminal

during the recording operation using the external solid state memory, a warning for

requesting a user to connect the relevant external solid state memory to the external

memory connecting terminal is generated). One of ordinary skill in the art would have

been motivated to use Takahashi's warning system with Terui's voice recorder in order

to avoid missing important recordings. It is desirable to let the user know that no

medium is attached in order to prevent the user to attempt to record without knowing no

medium is available to save the sound file.

27.   Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui

(U.S. Patent 5,903,871) in view of Saito (U.S. Patent 6,538,687).

28.   Regarding Claim 14, in addition to the elements stated above regarding claim 12,

Saito discloses an alarming means for giving an alarm to a user when an incorrect

memory card inconsistent with an intended object field is inserted (col. 17 lines 23 – 25)

(i.e. wherein when it is detected that an external solid state memory different from the

external solid state memory which has been removed from the external memory

connecting terminal during the recording operation is connected to the external memory

connecting terminal, a warning for indication that the currently connected external solid

state memory is different from that removed during the recording operation is

generated). One of ordinary skill in the art at the time of the invention would have been

motivated to use Saito's warning system with Terui's recorder for a user to be sure that

a correct memory card is inserted at all times. It is desirable to know that a correct card

is inserted to avoid recording over previously recorded important material.

29.   Claims 15 - 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Terui (U.S. Patent 5,903,871) in view of Yankowski (U.S. Patent 5,751,672).

30.   Regarding Claim 15 in addition to the elements stated above regarding claims 1

– 3 Yankowski discloses a play list with a repeat mode (col. 10 lines 4 and 12). A play

list may have one or more files available to play. Furthermore, with a mode activated,

instead of the list ending after the final song is played, the list will return to the beginning

and play again (i.e. a normal reproduction mode in which a single digital audio data file

selected from digital audio data files stored in said internal solid state memory and or

external solid state memory is reproduced only once, and a single file repeat mode in

which a single digital audio data file selected from digital audio data files stored in said

internal solid state memory and/or external solid state memory is reproduced

repeatedly, and a plural file continuous repeat mode in which a plurality of digital audio

data files stored in said internal solid state memory and/or external solid state memory

are successively reproduced only once, and a plural file repeat mode in which a plurality

of digital audio data files stored in said internal solid state memory and/or external solid

state memory are successively reproduced in a repeated manner). One of ordinary skill

in the art at the time of the invention would have been motivated to use Yankowski's

play list on Terui's voice recording apparatus in order to control various playback

features. It is desirable to be able to play an audio clip repeatedly in order to discern
what might be an unclear recording.

31.   Regarding Claim 16, in addition to the elements stated above regarding claim 15,
Yankowski further discloses sequentially playing the selected tracks from the play list
(col. 4 line 45) (i.e. wherein in said plural file repeat all digital audio data files stored in
said internal solid state memory and/or external solid state memory are successively
reproduced in a repeated manner).

32.   Regarding Claim 17, in addition to the elements stated above regarding claim 15,
Yankowski further discloses sequentially playing the selected tracks from the play list
(col. 4 line 45) and that the play list has a repeat mode (col. 10 line 12) (i.e. wherein in
said plural file repeat reproduction mode, a plurality of digital audio data files selected
from all digital audio data files stored in said internal solid state memory and/or external
solid state memory are successively reproduced in a repeated manner).

33.   Regarding Claim 18, in addition to the elements stated above regarding claim 15,
Yankowski further discloses that the user can select as many selections for play in a
specified order as desired (col. 9 lines 59 and 60) (i.e. wherein said plural file
reproduction mode, the order of reproducing a plurality of digital audio data files is set
by a user).

34.   Regarding Claim 19, in addition to the elements stated above regarding claim 15,
Terui further discloses that a file number (0001 to 9999) is written at a predetermined
position in the index information area (col. 10 lines 20 and 21) and Yankowski further
discloses sequentially playing the selected tracks from the play list (col. 4 line 45) (i.e.

wherein a plurality of digital audio data files are stored in said internal solid state

memory and/or external solid state memory with ordinary file numbers, and in said

plural file continuous reproduction mode, a plurality of digital audio data files from a

digital audio data file having a file number denoted by a user to a digital audio data file

having the last file number are successively reproduced).

35.   Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Terui (U.S. Patent 5,903,871) in view of Yankowski (U.S. Patent 5,751,672) and in

further view of Kajiyama (U.S. Patent 6,283,764).

36.   Regarding Claim 20, in addition to the elements stated above regarding claim 15,

Kajiyama further discloses when the user desires to repeatedly play back a specified

musical piece, he or she clicks a repeat button and when the repeat button is clicked,

the viewer software restarts playing back the musical piece from its beginning upon

termination of the playback of the musical piece (col. 13 lines 55 – 60) (i.e. wherein

during said plural file continuous reproduction mode or plural file repeat reproduction

mode or plural file repeat reproduction mode is automatically interrupted and said single

file repeat reproduction mode is automatically started to reproduce repeatedly a

currently reproduced digital audio data file). One of ordinary skill in the art at the time of

the invention would have been motivated to use Kajiyama's repeat button with

Yankowski's play list on Terui's voice recording apparatus in order to control various

playback features. It is desirable to be able to repeat something instantaneously during

playback if an important piece of speech is heard.

37.   Regarding Claim 21, in addition to the elements stated above regarding claim 15,

Kajiyama further discloses that clicking the repeat button again cancels the setting of

the repeated playback (col. 13 lines 66 and 67) (i.e. wherein when said automatically

started single file repeat reproduction mode is stopped in response to a users operation,

the interrupted plural file continuous reproduction mode or plural file repeat reproduction

mode is restarted).

38.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui

(U.S. Patent 5,903,871) in view of Perholtz (U.S. Patent 5,566,339).

39.   Regarding Claim 22 in addition to the elements stated above regarding claim 1,

Terui further discloses that the main control circuit is coupled to a fixed information

storing portion in which information unique to the voice recording and reproducing

apparatus is stored before the voice recording and reproducing apparatus is shipped

(col. 3 lines 54 – 58) the fixed information storing portion is a read only memory (col. 4

lines 5 – 8) (i.e. wherein said internal solid state memory has a data zone divided into a

normal data storage area storing digital audio data files of normal speeches and an area

that could not be erased at least by a normal operation for erasing one or more digital

audio data file stored in the normal data storage area). Terui does not disclose an

alarm data file for storing in the fixed information storage data area. Perholtz discloses

alert messages (col. 5 line 2) (i.e. one digital audio file of an alarm message). One of

ordinary skill in the art at the time of the invention would have been motivated to store

Perholtz's alert messages in Terui's voice recording apparatus' fixed information

storage area before shipping in order to make an alarm readily available to the user. It

is desirable to include a preprogrammed alarm within the voice recorder in order to alert

the user when problems using the device arise.

40.   Regarding Claim 23, in addition to the elements stated above regarding claim 22,

Terui further discloses that if the playing button PLAY has been pressed, a voice

reproducing process is implemented and in the voice reproducing process, the recorded

data in the flash memory card are read out through the memory card controller and

transmitted to the DSP, in which the data are decompressed and transmitted to the D/A

converter (col. 12 lines 23 – 28) (i.e. wherein in a normal reproduction mode, only the

normal data storage area can be accessed). Perholz discloses that alert messages will

be played by the unit should a let situation be detected (col. 5 lines 2 and 3) (i.e. in an

alarm reproduction mode, only the alarm data storage area can be accessed).

41.   Regarding Claim 24, in addition to the elements stated above regarding claim 22,

Perholtz further discloses a microphone provided in the unit to facilitate the capture of

user recorded alert messages (col. 5 lines 1 and 2) (i.e. wherein when no alarm

message is recorded, an alarm sound is generated at a time present by a user).

42.   Claims 25 - 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Terui (U.S. Patent 5,903,871) in view of Gladstein (U.S. Patent 5,349,668) .

43.   Regarding Claim 25, in addition to the elements stated above regarding claim 1,

Terui further discloses a battery for supplying electric power to the whole voice

recording and reproducing apparatus (col. 3 lines 22 – 24) (i.e. a power source for

energizing said circuits and including at least one battery). Gladstein discloses a

voltage monitoring means connected to battery banks (col. 12 lines 5 and 6) (i.e. a

battery check circuit for checking an output voltage of said power supply), generating a

low battery warning signal when the bank voltage across any one of said banks drops

below a predetermined first value (col. 12 lines 10 – 12) (i.e. wherein when the output

voltage of the power source is higher than a threshold value at which the apparatus

could not work correctly but becomes no higher than a first level, this condition is

displayed), said voltage monitoring means further comprising second means for

generating a cutoff signal when the bank voltage across any one of the said banks

drops below a predetermined second value (col. 12 lines 14 – 17) (i.e. when the output

voltage of the power source is higher than said threshold value, but becomes not higher

than a second level, this condition is displayed) and when any one of the said banks

drops below a predetermined level allowing said computer to save volatile data and

power down under program control (col. 12 lines 11 –14) (i.e. when the output voltage

of the power source becomes not higher than said second level during the recording

operation, data management information for currently recorded digital audio data is

automatically saved and the recording operation is automatically stopped). One of

ordinary skill in the art would have been motivated to use Gladstein's power monitoring

system on Terui's voice recording apparatus in order to avoid data loss. It is desirable

for a user to have a warning system to know when battery power is low in order for a

system to save important data that may be lost if the power was to suddenly drop.

45.   Regarding Claim 26, in addition to the elements stated above regarding claim 15,

Gladstein further discloses shutdown means connected to said monitoring means for

receiving said warning signal and, in response thereto, initiating saving volatile data and

powering down said computer (col. 12 lines 21 – 24) (i.e. wherein when the output

voltage of the power source reaches a third level lower than said second level but is

slightly higher than said threshold value, the power supply to various portions of the

apparatus is automatically stopped).

46.   Regarding Claim 27, in addition to the elements stated above regarding claim 25,

Gladstien further discloses said voltage monitoring means further comprising second

means for generating a cutoff signal when the bank voltage across any one of the said

banks drops below a predetermined second value (col. 12 lines 14 – 17) (i.e. wherein

when the output voltage of the power source becomes not higher than said second level

during the recording operation), shutdown means connected to said monitoring means

for receiving said warning signal and, in response thereto, initiating saving volatile data

and powering down said computer (col. 12 lines 21 – 24) (i.e. using an external solid

state memory which is detachably connected to the apparatus, data management

information for currently recorded digital audio data is read out of RAM provided in the

apparatus and is stored in a FAT area in the external solid state memory, and then the

recording operation is stopped).

47.   Regarding Claim 28, in addition to the elements stated above regarding claim 25,

generating a low battery warning signal when the bank voltage across any one of said

banks drops below a predetermined first value (col. 12 lines 10 – 12) and said voltage

monitoring means further comprising second means for generating a cutoff signal when

the bank voltage across any one of the said banks drops below a predetermined second

value (i.e. wherein when the output voltage of the power source is in a range between a

maximum value and a middle value between the maximum value and said first level, an

indication representing this condition is display, and when the output voltage of the

power source is in a range between said middle value and said first level, an indication

representing this condition is displayed).

48.   Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terui

(U.S. Patent 5,903,871) in view of Omura (IEEE Paper CH2243) in further view of

Yankowski (U.S. Patent 5,751,672) in further view of Perholtz (U.S. Patent 5,566,339)

and in further view of Gladstein (U.S. Patent 5,349,668).

49.   Regarding Claim 29, Terui discloses a microphone that produces an analog

signal that is converted to a digital signal by an analog-to-digital converter (col. 3 lines 7

– 11) (i.e. an A/D converter for converting an analog audio signal collected by a

microphone into digital audio data), a flash memory that may be adopted as the

incorporated memory (col. 14 lines 11 - 13) (i.e. an internal solid state memory for

storing said compressed digital audio data), the digital signal from the A/D converter is

compressively transformed (coded) to data in a predetermined format (col. 3 lines 27 –

29) (i.e. a digital compression circuit for compressing said digital audio data), a DSP to

decompressively transform (decode) the data from the main control circuit (col. 3 lines

32 – 34) (i.e. a digital decompression circuit for decompressing said compressed digital

audio data read out of said internal solid state memory to generate decompressed

digital audio data), a D/A converter that converts the digital signal to an analog signal

(col. 3 lines 37 and 38) (i.e. a D/A converter for converting said decompressed digital

audio data into an analog audio signal), the analog signal is inputted to a power

amplifier for amplifying the analog signal and driving speaker (col. 3 lines 38 – 40) (i.e. a

reproducing means for reproducing said analog audio signal supplied from said D/A

converter) and transferring the recorded dictation data to a personal computer and the

data can be managed only by the information in the file (col. 7 line 67 and col. 8 lines 1

and 2) (i.e. an output means for outputting said compressed digital audio data to an

external computer such that the compressed digital audio data has a file format which

can be directly treated by the external computer) and that if the flash memory card has

not been installed, the process goes back to step S32 and if the flash memory card has

been installed the process goes to step S34 (figure 12 reference S32 – S34 and col. 10

lines 8 and 9) (i.e. wherein when it is detected that the external solid state memory is

removed from said external memory connecting terminal during a recording operation

using the external solid state memory, the recording operation is temporally interrupted,

and after detecting that the relevant external solid state memory is connected to said

external memory connecting terminal, the interrupted recording operation is restarted)

and a battery for supplying electric power to the whole voice recording and reproducing

apparatus (col. 3 lines 22 – 24) (i.e. a power source for energizing said circuits and

including at least one battery). Terui does not disclose that the analog audio signal of

sixty seconds is converted into compressed digital audio data of not larger than

100Kbytes, a battery check circuit for checking an output voltage of said power supply,

a normal reproduction mode in which a single digital audio data file selected from digital

audio data files stored in said internal solid state memory and or external solid state

memory is reproduced only once, a single file repeat mode in which a single digital

audio data file selected from digital audio data files stored in said internal solid state

memory and/or external solid state memory is reproduced repeatedly, a plural file

continuous repeat mode in which a plurality of digital audio data files stored in said

internal solid state memory and/or external solid state memory are successively

reproduced only once, a plural file repeat mode in which a plurality of digital audio data

files stored in said internal solid state memory and/or external solid state memory are

successively reproduced in a repeated manner, said internal solid state memory has a

data zone divided into a normal data storage area storing digital audio data files of

normal speeches and an alarm data storage area storing at least one digital audio file of

an alarm message, and the digital audio data file stored in the alarm data storage area

could not be erased at least by a normal operation for erasing one or more digital audio

data file stored in the normal data storage area, when the output voltage of the power

source is higher than said threshold value, but becomes not higher than a second level,

this condition is displayed, and when the output voltage of the power source becomes

not higher than said second level during the recording operation, data management

information for currently recorded digital audio data is automatically saved and the

recording operation is automatically stopped. Yankowski discloses a play list with a

repeat mode (col. 10 lines 4 and 12). A play list may have one or more files available to

play. Furthermore, with a mode activated, instead of the list ending after the final song

is played, the list will return to the beginning and play again (i.e. a normal reproduction

mode in which a single digital audio data file selected from digital audio data files stored

in said internal solid state memory and or external solid state memory is reproduced

only once, and a single file repeat mode in which a single digital audio data file selected

from digital audio data files stored in said internal solid state memory and/or external

solid state memory is reproduced repeatedly, and a plural file continuous repeat mode

in which a plurality of digital audio data files stored in said internal solid state memory

and/or external solid state memory are successively reproduced only once, and a plural

file repeat mode in which a plurality of digital audio data files stored in said internal solid

state memory and/or external solid state memory are successively reproduced in a

repeated manner). One of ordinary skill in the art at the time of the invention would

have been motivated to use Yankowski's play list on Terui's voice recording apparatus

in order to control various playback features. It is desirable to be able to play an audio

clip repeatedly in order to discern what might be an unclear recording. Yankowski does

not disclose that the analog audio signal of sixty seconds is converted into compressed

digital audio data of not larger than 100Kbytes, a battery check circuit for checking an

output voltage of said power supply, said internal solid state memory has a data zone

divided into a normal data storage area storing digital audio data files of normal

speeches and an alarm data storage area storing at least one digital audio file of an

alarm message, and the digital audio data file stored in the alarm data storage area

could not be erased at least by a normal operation for erasing one or more digital audio

data file stored in the normal data storage area, when the output voltage of the power

source is higher than said threshold value, but becomes not higher than a second level,

this condition is displayed, and when the output voltage of the power source becomes

not higher than said second level during the recording operation, data management

information for currently recorded digital audio data is automatically saved and the

recording operation is automatically stopped. Gladstein discloses a voltage monitoring

means connected to battery banks (col. 12 lines 5 and 6) (i.e. a battery check circuit for

checking an output voltage of said power supply), generating a low battery warning

signal when the bank voltage across any one of said banks drops below a

predetermined first value (col. 12 lines 10 – 12) (i.e. wherein when the output voltage of

the power source is higher than a threshold value at which the apparatus could not work

correctly but becomes no higher than a first level, this condition is displayed), said

voltage monitoring means further comprising second means for generating a cutoff

signal when the bank voltage across any one of the said banks drops below a

predetermined second value (col. 12 lines 14 – 17) (i.e. when the output voltage of the

power source is higher than said threshold value, but becomes not higher than a

second level, this condition is displayed) and when any one of the said banks drops

below a predetermined level allowing said computer to save volatile data and power

down under program control (col. 12 lines 11 –14) (i.e. when the output voltage of the

power source becomes not higher than said second level during the recording

operation, data management information for currently recorded digital audio data is

automatically saved and the recording operation is automatically stopped). One of

ordinary skill in the art would have been motivated to use Gladstein's power monitoring

system on Terui's voice recording apparatus in order to avoid data loss. It is desirable

for a user to have a warning system to know when battery power is low in order for a

system to save important data that may be lost if the power was to suddenly drop.

Gladstein does not disclose that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100Kbytes, said internal solid state memory has a data zone divided into a normal data storage area storing digital audio data files of normal speeches and an alarm data storage area storing at least one digital audio file of an alarm message, and the digital audio data file stored in the alarm data storage area could not be erased at least by a normal operation for erasing one or more digital audio data file stored in the normal data storage area. Terui further discloses that the main control circuit is coupled to a fixed information storing portion in which information unique to the voice recording and reproducing apparatus is stored before the voice recording and reproducing apparatus is shipped (col. 3 lines 54 – 58) the fixed information storing portion is a read only memory (col. 4 lines 5 – 8) (i.e. wherein said internal solid state memory has a data zone divided into a normal data storage area storing digital audio data files of normal speeches and an area that could not be erased at least by a normal operation for erasing one or more digital audio data file stored in the normal data storage area). Terui does not disclose an alarm data file for storing in the fixed information storage data area. Perholtz discloses alert messages (col. 5 line 2) (i.e. one digital audio file of an alarm message). One of ordinary skill in the art at the time of the invention would have been motivated to store Perholtz's alert messages in Terui's voice recording apparatus' fixed information storage area before shipping in order to make an alarm readily available to the user. Perhltotz does not disclose that the analog audio signal of sixty seconds is converted into compressed digital audio data of not larger than 100Kbytes. Omura discloses a new technique for low cost robust

voice compression at a rate of 9.6 Kbps or less (page 1). Since there are 8 bits in a

byte, this compression technique allows for 1.2 Kilobytes per second (9.6 kilobits per

second / 8 bits per byte = 1.2 kilobytes per second). At a rate of 1.2 kilobytes per

second, 60 seconds of audio data would fit within a file of 72 KB, (1.2 kilobytes per

second X 60 seconds) less than 100 KB (i.e. that the analog audio signal of sixty

seconds is converted into compressed digital audio data of not larger than 100K bytes).

One of ordinary skill in the art at the time of the invention would have been motivated to

use Omura's compression scheme in Terui's voice recording apparatus in order to

reduce the amount of memory necessary for recording or, extend the amount of voice

that can be recorded in a given memory space.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andrew C Flanders whose telephone number is (703)

305-0381. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Forrester Isen can be reached on (703) 305-4386. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

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Business Center (EBC) at 866-217-9197 (toll-free).

acf

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